

You have arrived at:

The Reed Center for Ecosystem Reintegration

Welcome!
We will get started soon.



EPA MID-ATLANTIC REGION
2023 SUMMIT

Engaging and Investing for a
Healthy and Sustainable Future

Friendly Reminders Before We Get Started

Please [mute yourself](#) and [turn off your webcam](#) during presentations.

If you encounter technical difficulties during the meeting, you can:

- ✓ Send a chat message directly to Host or IT Support
- ✓ Email epamidatsummit@michaeldbaker.com with the subject line “Zoom Support”

This session is being recorded and will be made available after the summit.

*This presentation, and the accompanying slides, have not been subject to EPA management review, and thus do not necessarily represent the position of EPA or the United States on the matters discussed.

Benjamin F. Friton

The REED Center for Ecosystem Reintegration

NEW PERSPECTIVES ON BIOMIMICRY: ADVANCING RESILIENCE AND REDEFINING EFFICIENCY



www.TheREEDCenter.org



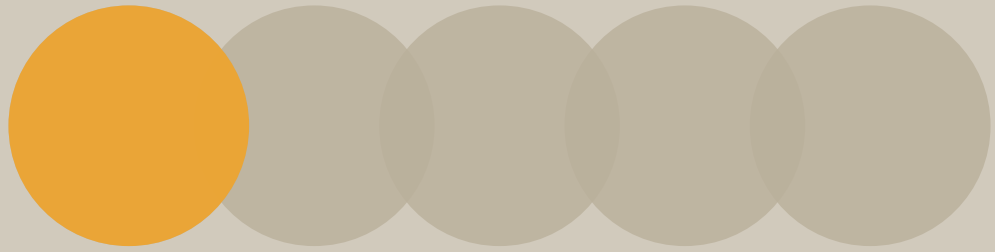
Picture Your
Favorite Plant



© jasangoroncy.com



Invisible to our
eyes usually
mean invisible to
our minds.



Agriculture and the modern world

A story of economic efficiency

THE REED
CENTER

Economic Efficiency

Image Landsat / Copernicus
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image IBCAO

Google







Erosion





Not our
grandparents'
dustbowl





Biomes



Mountain & Tundra ▶ **17** %



Boreal Forest ▶ **17** %



Desert & Scrub ▶ **22** %



Grassland & Savanna ▶ **23** %



Tropical & Temperate Forest ▶ **21** %

World Land ▲ **100** %



Biomes



Mountain & Tundra ▶ **17** %



Boreal Forest ▶ **17** %



Desert & Scrub ▶ **22** %



Agriculture ▶ **38** %

World Land ▲ **100** %



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New Perspectives



THE REED
CENTER

20 km
20 mi

1984



TIME
Google



2015

2016

2017

2018

2019

2020



1984

1985

1986

1987

1988

1989

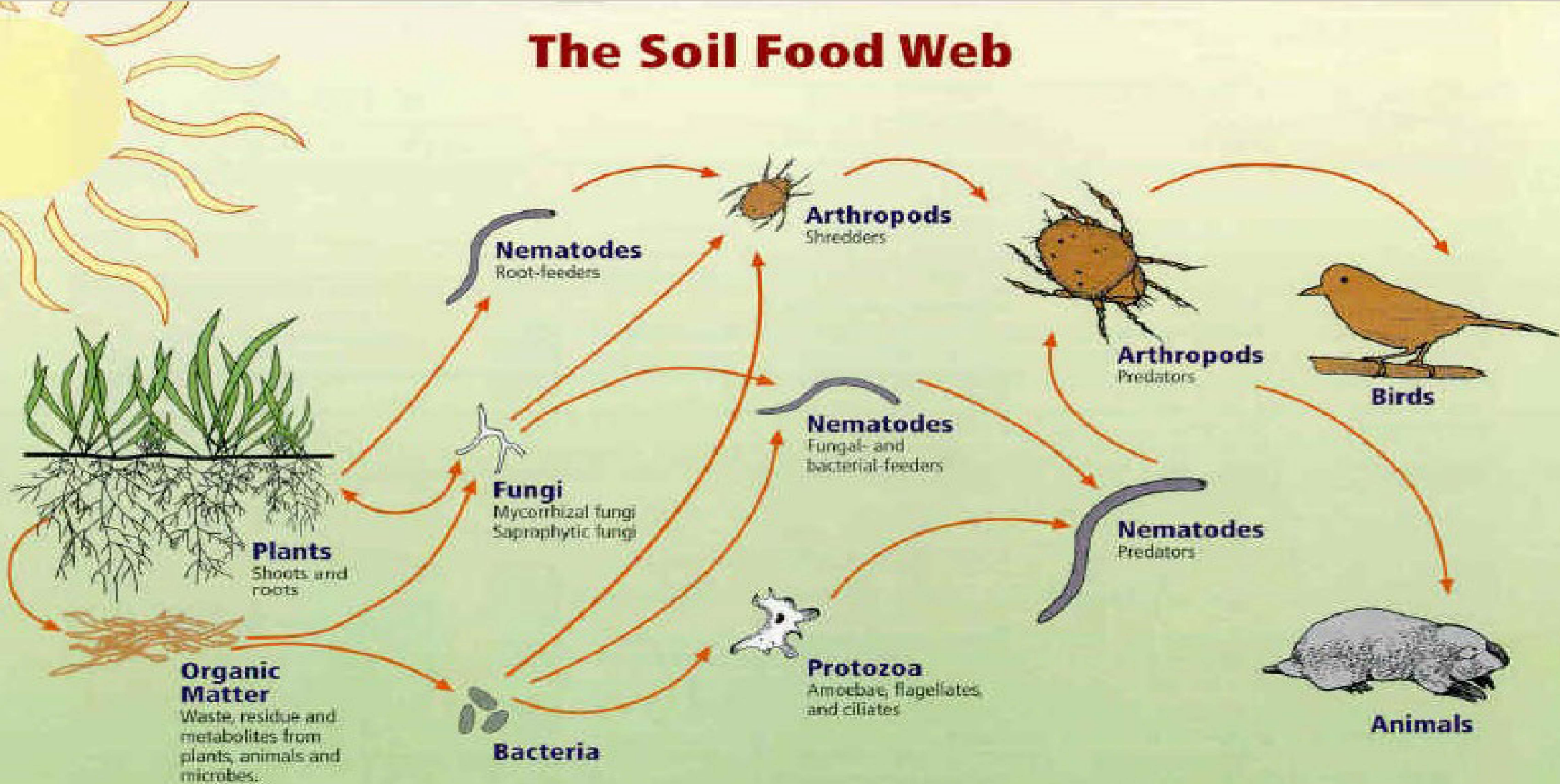
1990

1991



0.25x

The Soil Food Web



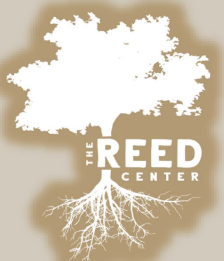
First trophic level:
Photosynthesizers

Second trophic level:
Decomposers
Mutualists
Pathogens, parasites
Root-feeders

Third trophic level:
Shredders
Predators
Grazers

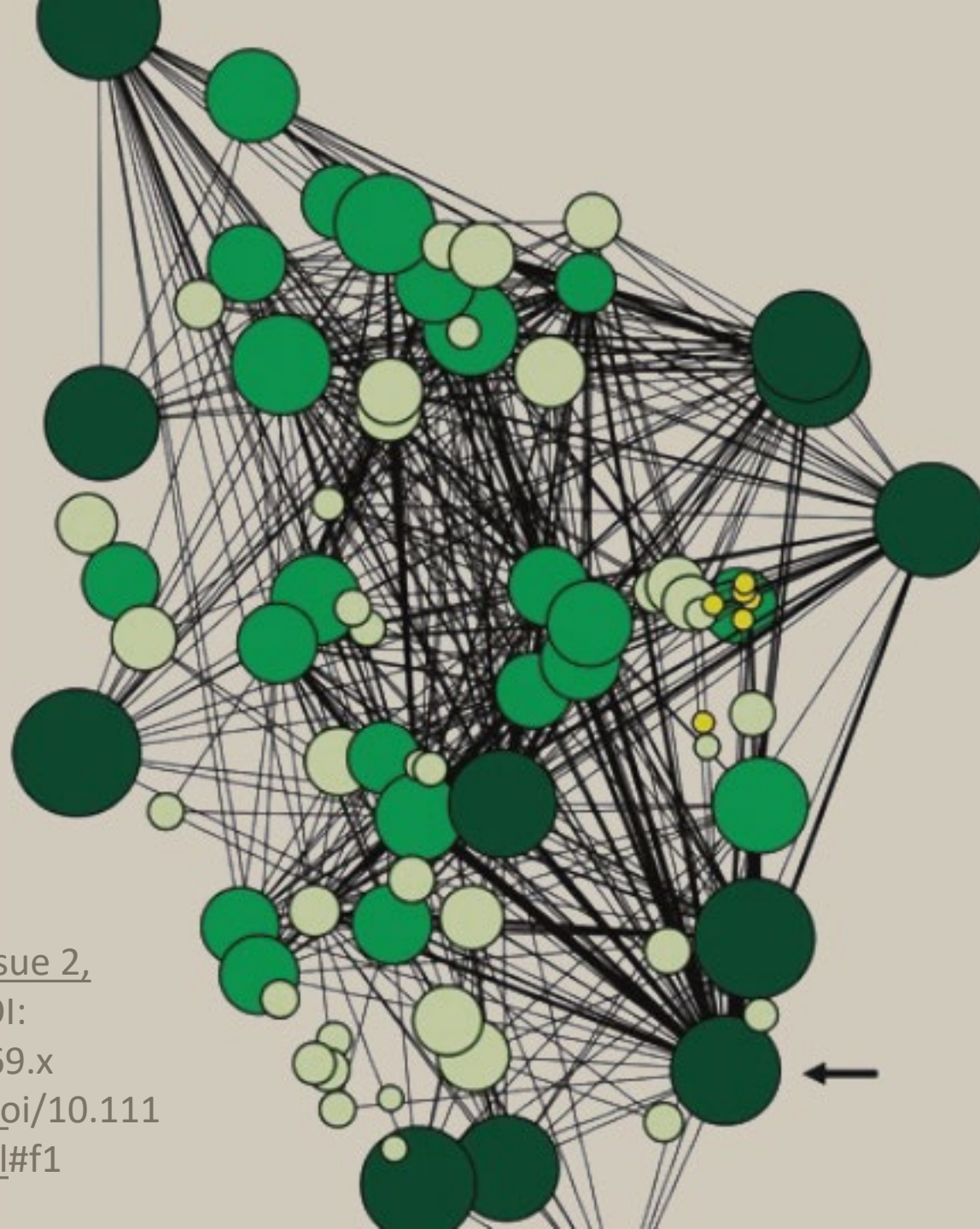
Fourth trophic level:
Higher level predators

Fifth and higher trophic levels:
Higher level predators





Mycoorrhizal fungi, extending from a root—and increasing the plant's ability to obtain nutrients and water.

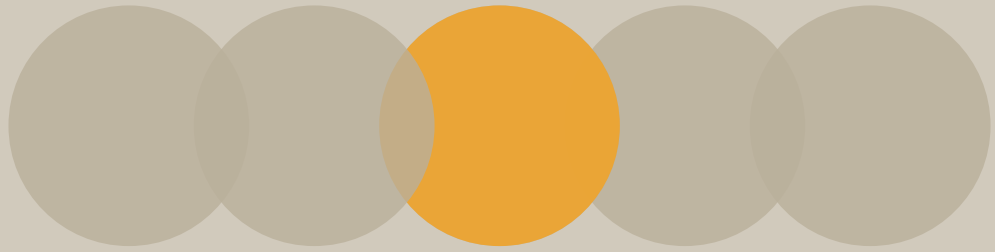


Architecture of the wood wide web

Rhizopogon spp.
genets link multiple
douglas-fir cohorts

New Phytologist Volume 185, Issue 2,
pages 543-553, 29 OCT 2009 DOI:
10.1111/j.1469-8137.2009.03069.x
<http://onlinelibrary.wiley.com/doi/10.1111/1/j.1469-8137.2009.03069.x/full#f1>





Homeland Security & Human Health

**Hyper-Localized; Perennialized; Densified; Resilient
Agro-ecoystsems**

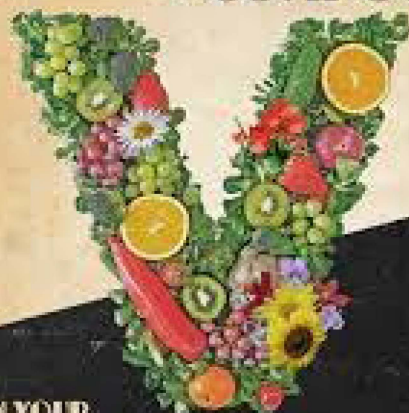
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Ask the—
U.S. Department
For a FREE

Uncle Sam says -
GARDEN
To Cut Food Cost

SOIL LOVES COMPOST



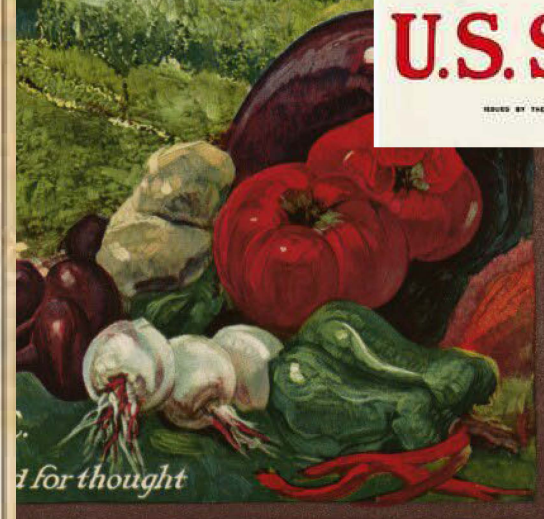
IN YOUR
VICTORY GARDEN

US COMPOSTING COUNCIL AND INTERNATIONAL COMPOST AWARENESS WEEK



*Raised 'em myself
in my*
U.S. School Garden

ISSUED BY THE U. S. SCHOOL GARDEN ARMY BUREAU OF EDUCATION, DEPARTMENT OF INTERIOR,
WASHINGTON, D. C.



and for thought

Week 1



Week 3



Week 5



Growing
Pillars

www.CanYALove.org

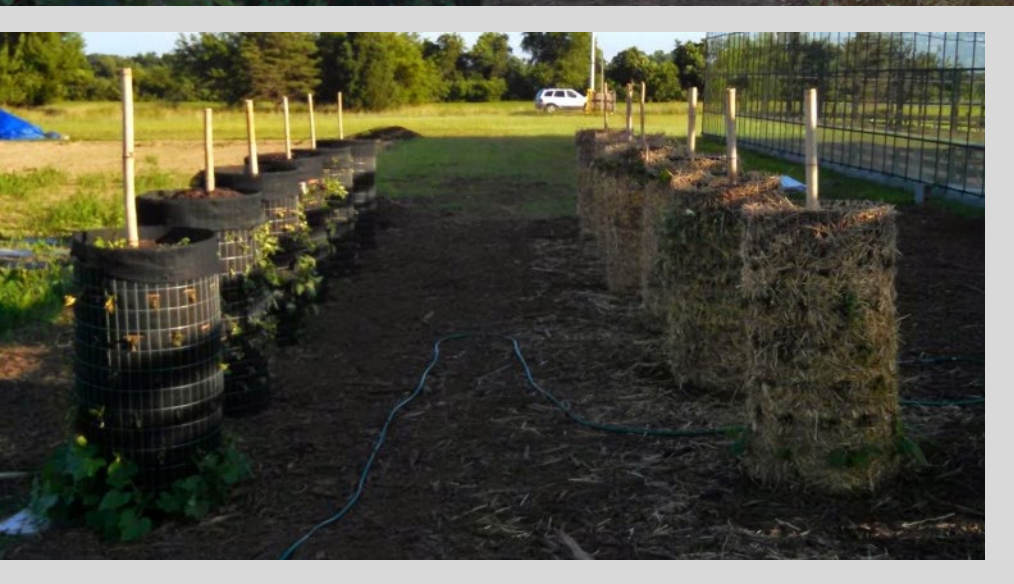




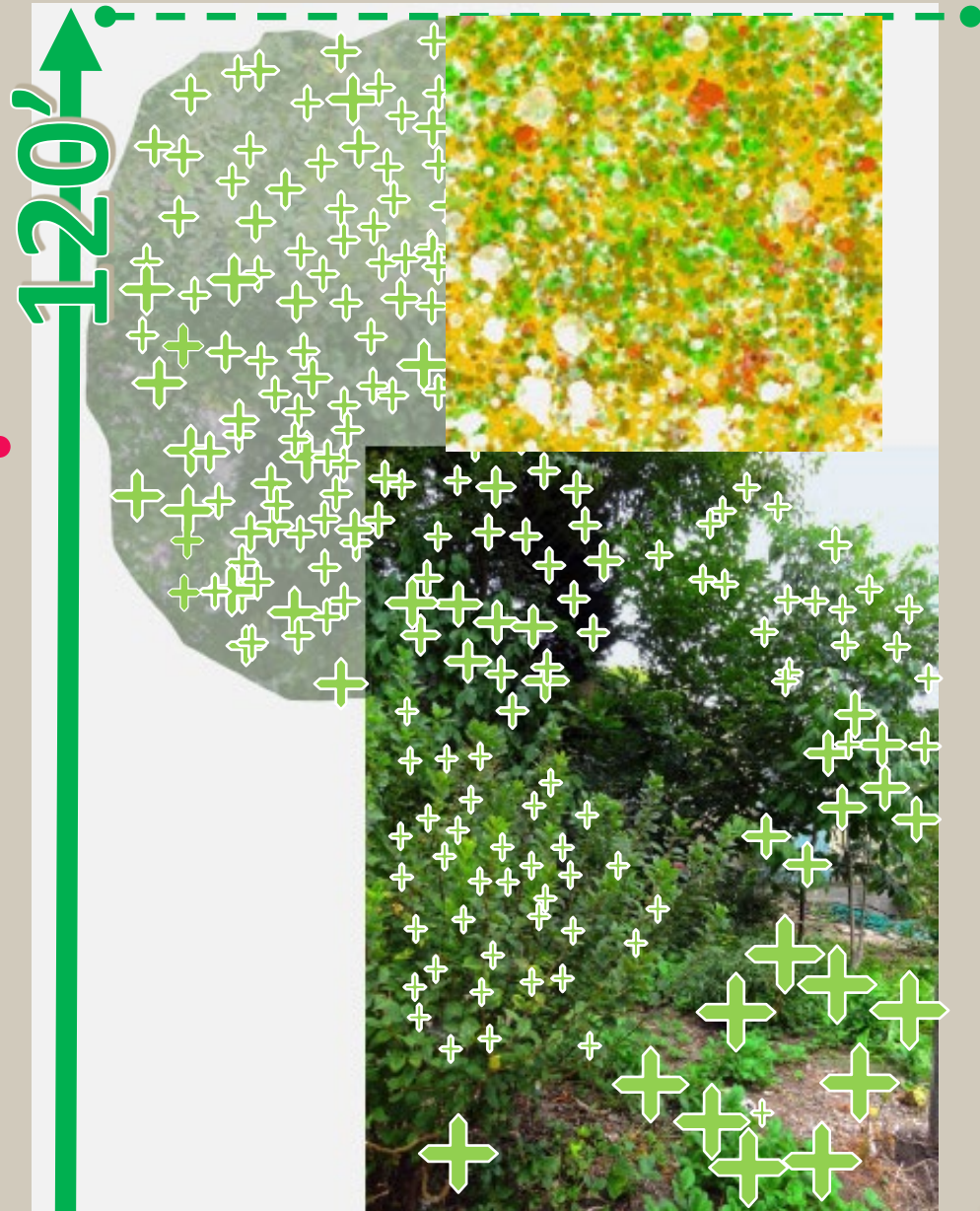
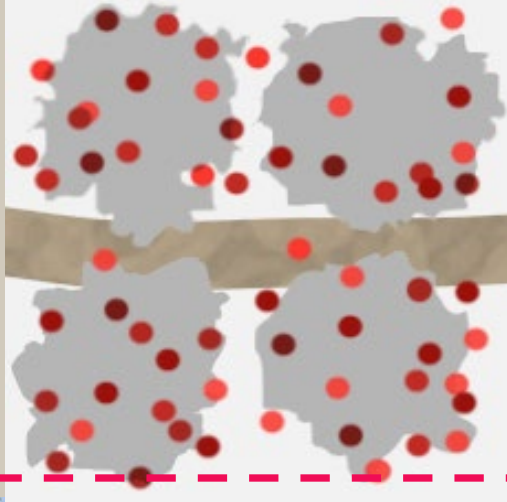
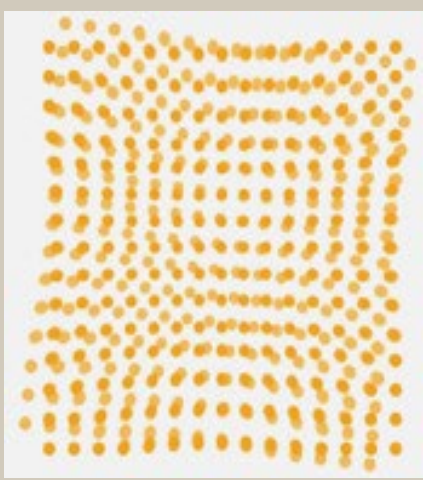

CAN YA LOVE
Helping a child today become the sage of tomorrow.
Website:
www.canyalove.org
Contact:
info@canyalove.org

Growing
Walls

www.CanYALove.org



www.CanYALove.org



Monoculture

 Polyculture



Pecan

Paw paw

Bush Cherry

Paw paw

Sweet Fern

Strawberries

Lemon Balm

White Clover



Polyculture





Wild Cherry

Winter Grape

White Pine

Paw paw

Spicebush

Nettles

Ostrich Fern

Goldenseal

Wintergreen



Paw paw

Sweetbay
Magnolia

Redbud

Purple Aster

Sunchokes

Rhubarb

French Sorrel

Ostrich Fern

Red Clover

Blueberry

Dandelion

Wine Cap Mushroom



Polyculture





Apple

Lemon Balm

Rhubarb

Strawberries

Squash



Goldenrod

Melon

Frost Aster

Title
Goes Here



Amaranth

Egyptian Walking Onion

Strawberry

Wood Sorrel

White Clover

Brassicaceae



Golden Giant Amaranth

Rainbow Chard

+ Living Mulch

+ Companion Planting







Companion Planting





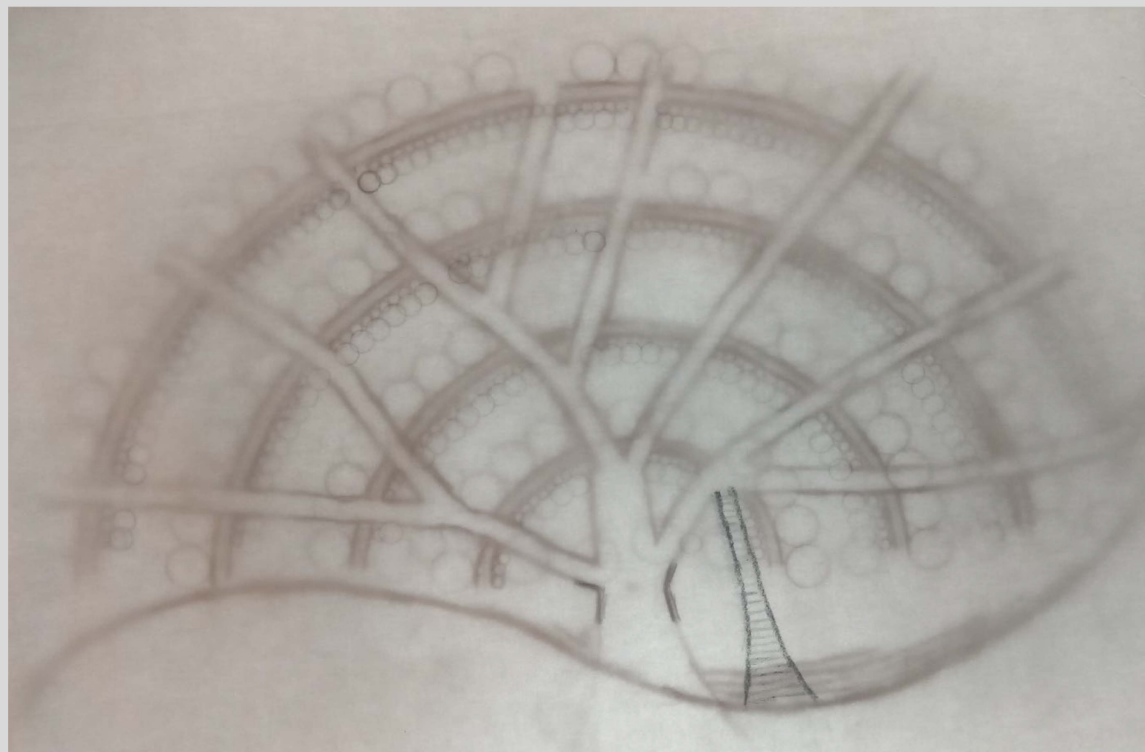
➤ CBF Planting (19.37 ac total)

➤ Bird Sanctuary (2.53 ac total)









RESILIENCY HUB

Localize, Decentralize, Connect, & Engage

- Composting and hyper-local sustenance infrastructure (VICTORY GARDENS 2.0)
- Value-added processing
- Agro-tourism
- Assistance for forestry stewards and producers
- Loosen/clarify zoning to support for diversified farms and land activities
- Incentivizing more high school internships
- Tool-shares
- Tree planting programs
- Make it easier for land owners zoned agriculture
- Inter-generational gardening
- Nursing home gardens
- School Food Forests
- End no-compete clauses for food vendors
- De-exrternalized collateral effects: Pesticide and fertilizer ordinances



Please join our newsletter.



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We are on a brief break.

The next session will
start at 1:30 PM ET.

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